CLAIMS

We claim:

1. A method of inducing an immune response to a T-cell independent antigen in a host, which comprises administering to the host an effective amount of interleukin-12 and the T-cell independent antigen.

2. The method of Claim 1 wherein the T-cell independent antigen is selected from the group consisting of: a carbohydrate, a lipid, a glycolipid, a carrier conjugate, a lipopolysaccharide and a phage.

3. The method of Claim 2 wherein the carbohydrate antigen is a polysaccharide antigen.

4. The method of Claim 3 wherein the polysaccharide antigen is selected from the group consisting of: a bacterial capsular antigen and a bacterial cell wall antigen.

5. The method of Claim 1 wherein the T-cell independent antigen is from bacteria selected from the group consisting of: *Streptococcus pneumoniae*, *Neisseria meningiditis* and *Haemophilus influenzae*.

6. The method of Claim 1 wherein the immune response is a humoral immune response.

7. The method of Claim 6 wherein the humoral immune response results in an enhanced IgG2a and IgG3 antibody response.

8. The method of Claim 1 wherein the interleukin-12 is administered as a polynucleotide under conditions in which the interleukin-12 is expressed *in vivo*.

9. A method of enhancing an immune response against a T-cell independent antigen in a host, which comprises administering to the host an effective amount of interleukin-12 and the T-cell independent antigen.

10. The method of Claim 9 wherein the T-cell independent antigen is selected from the group consisting of: a carbohydrate, a lipid, a glycolipid, a carrier conjugate, a phosphorylcholine, a lipopolysaccharide and a phage.

11. The method of Claim 10 wherein the carbohydrate antigen is a polysaccharide antigen.

12. The method of Claim 11 wherein the polysaccharide antigen is selected from the group consisting of: a bacterial capsular antigen and a bacterial cell wall antigen.

13. The method of Claim 9 wherein the T-cell independent antigen is from bacteria selected from the group consisting of: *Streptococcus pneumoniae*, *Neisseria meningiditis* and *Haemophilus influenzae*.

14. The method of Claim 9 wherein the immune response is a humoral immune response.

15. The method of Claim 14 wherein the humoral immune response results in an enhanced IgG2a and IgG3 antibody response.

16. The method of Claim 9 wherein the interleukin-12 is administered as a polynucleotide under conditions in which the interleukin-12 is expressed *in vivo*.

17. A method of inducing an immune response to *Streptococcus pneumoniae* in a host, which comprises administering to the host an effective amount of interleukin-12 and a T-cell independent antigen of *Streptococcus pneumoniae*.

18. The method of Claim 17 wherein the immune response is a humoral immune response.

19. The method of Claim 18 wherein the humoral immune response results in an enhanced IgG2a and IgG3 antibody response.

20. The method of Claim 17 wherein the interleukin-12 is administered as a polynucleotide under conditions in which the interleukin-12 is expressed *in vivo*.

21. A method of inducing an immune response to *Neisseria meningiditis* in a host, which comprises administering to the host an effective amount of interleukin-12 and a T-cell independent antigen of *Neisseria meningiditis*.

22. The method of Claim 21 wherein the immune response is a humoral immune response.

23. The method of Claim 22 wherein the humoral immune response results in an enhanced IgG2a and IgG3 antibody response.

24. The method of Claim 21 wherein the interleukin-12 is administered as a polynucleotide under conditions in which the interleukin-12 is expressed *in vivo*.

25. A composition comprising interleukin-12 and a T-cell independent antigen.

26. The composition of Claim 25 wherein the T-cell independent antigen is selected from the group consisting of: a carbohydrate antigen, a lipid antigen, a glycolipid antigen, a carrier conjugate antigen, a phosphorylcholine antigen, a lipopolysaccharide antigen and a phage antigen.

27. The composition of Claim 26 wherein the carbohydrate antigen is a polysaccharide antigen.

28. The composition of Claim 27 wherein the polysaccharide antigen is selected from the group consisting of: a bacterial capsular antigen and a bacterial cell wall antigen.

29. The composition of Claim 25 wherein the T-cell independent antigen is from bacteria selected from the group consisting of: *Streptococcus pneumoniae*, *Neisseria meningiditis* and *Haemophilus influenzae*.